Work Order ID 86052

June-20-12 7:59:32 AM

86052

Item ID: D212-664-107TRN **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Turning Detail

Start Date: 20/06/2012 **Start Qty:** 1.00 *1*

Required Date: 04/07/2012 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** MLJ **Date:** 12/06/20 **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D212-664-147	Rev B(DE0)								
100		0.00							
100	MORI SEIKI CNC LATHE LARGE								
Mori Seiki	**Memo**	0.00							
Mori Seiki CNC Lathe Large	1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA705								
	2-Turn first side as per Folio FA113								
	3-Blend transition lines only, **do not sand whole tube**								
	FOLIO REV: A								
	DWG REV: B								
	*Use mill bastard file, brush file repeatedly with file card.								
	*Do not use sandpaper coarser than 320 grit								
110	QC1- Inspect dimensions to dimension sheet	0.00							
110	**Memo**	0.00							
QC									
Quality Control									

MLJ 12/06/2

MLJ 12/06/2

Dart Aerospace Ltd

W/O: 86052

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D212-664-107TRN PAR #: _____ Fault Category: Machining + tube NCR: Yes (No) DQA: [illegible] Date: 12/07/24

Resolution: _____ Disposition: Use as is QA: N/C Closed: CK Date: 12/7/24

NCR: 12-1610

WORK ORDER NON-CONFORMANCE (NCR)

DATE	STEP	Description of NC Section A	Corrective Action Section B: Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
12/7/13	100	OVERALL CUT LENGTH TOO SHORT = 126.41 R.C. Operator error	12.07.13	Acceptable. Cuff is trimmed after banding so no effect on part	12-7-24	12-7-4	12/7/13	DAS 16 8-89 12/07/24

NOTE: Date & initial all entries

Work Order ID 86052

June-20-12 7:59:32 AM

86052

Item ID: D212-664-107TRN **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Turning Detail

Start Date: 20/06/2012 **Start Qty:** 1.00 *1*

Required Date: 04/07/2012 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00				1	0		
120	MORI SEIKI CNC LATHE LARGE								
Mori Seiki	**Memo**	0.00							
Mori Seiki CNC Lathe Large	1-Turn second side as per Folio FA705 2-Blend transition lines only, **do not sand whole tube**: *Use mill bastard file, brush file repeatedly with file card. *Do not use sandpaper coarser than 320 grit. FOLIO REV: A DWG REV: D 3- Remove plugs and sand								mark 12/06/21
130	QC1- Inspect dimensions to dimension sheet	0.00				1	0		
130									
QC	**Memo**	0.00							
Quality Control									mark 12/06/21

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 86052

86052

June-20-12-7:59:[illegible]M

Item ID: D212-664-107TRN **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Turning Detail

Start Date: 20/06/2012 **Start Qty:** 1.00 *1*

Required Date: 04/07/2012 **Req'd Qty:** 1.00 *1*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	QC8- Inspect parts - second check	0.00				12-7-4			
140									
QC	**Memo**	0.00							
Quality Control									
145		0.00							
145						JW 12-7-9			
Crosstubes	**Memo**	0.00							
Crosstubes	GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.								
150	Crosstubes Chemical Conversion	0.00							
150									
HandFXtube	**Memo**	0.00				JW RM 12-7-9			
Hand Finishing Crosstubes									

1- Rinse Wash.

12-07-12 2- Acid Etch.

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Work Order ID 86052
June-20-12 7:59:32 AM

86052

Item ID: D212-664-107TRN
Revision ID:
Item Name: Crosstube Turning Detail
Start Date: 20/06/2012 **Start Qty:** 1.00 *1*
Required Date: 04/07/2012 **Req'd Qty:** 1.00 *1*
Reference:

Accept *N900040100*

Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**
QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							
160									
QC	Memo	0.00							
Quality Control									
170		0.00							
170	Packaging								
Packaging	Memo	0.00							
Packaging	Identify and stock in kanban rack Location: LG								
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.00							
Quality Control									

12-7-18

12-7-18

12/7/20

MCJ 12/07/18

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Picklist Print

June-20-12 7:59:35 AM

Work Order ID: 86052

86052

Parent Item: D212-664-107TRN

D212-664-107TRN

Parent Item Name: Crosstube Turning Detail

Start Date: 20/06/2012 **Required Date:** 04/07/2012

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP Rev:A New Issue 08-03-06 DD Verified by:ec
IPP Rev B Removed polish 08.04.02 EC verified: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6019-128		Manufactured	No			110	Each	45.0000	1	1			

D6019-128

Crosstube Material

**

Location	Loc Qty	Loc Code
LG	45	
69803	21	
75635	24	

1 mark L 12/06/02

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	66052
Description: Crosstube Assembly (205/212/412 Low Fwd)	Part Number:	D212-664-147
Inspection Dwg: D212-664-147 **Rev:** B		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.313	+/-0.010	.313	✓		vern	CWC-08
	2.360	+0.005/-0.000	2.362	✓		↓	
	2.360	+0.005/-0.000	2.364	✓			
	2.366	+0.005/-0.000	2.367	✓			
	2.473	+0.005/-0.000	2.476	✓			
	2.573	+0.005/-0.000	2.574	✓			
	2.673	+0.005/-0.000	2.678	✓			
	2.750	+0.005/-0.000	2.750	✓			
	2.750	+0.005/-0.000	2.750	✓			
SIDE B	0.313	+/-0.010	.313	✓		vern	CWC-08
	2.360	+0.005/-0.000	2.364	✓		↓	
	2.360	+0.005/-0.000	2.365	✓			
	2.366	+0.005/-0.000	2.371	✓			
	2.473	+0.005/-0.000	2.478	✓			
	2.573	+0.005/-0.000	2.574	✓			
	2.673	+0.005/-0.000	2.677	✓			
	2.750	+0.005/-0.000	2.750	✓			
	2.750	+0.005/-0.000	2.750	✓			
	0.126.528	+/-0.020	126.510		✓	Tape	46-25

QA1.C
12/06/21

Acceptable.
Cuff trimmed,
no effect on part.
CP 12/6/25

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

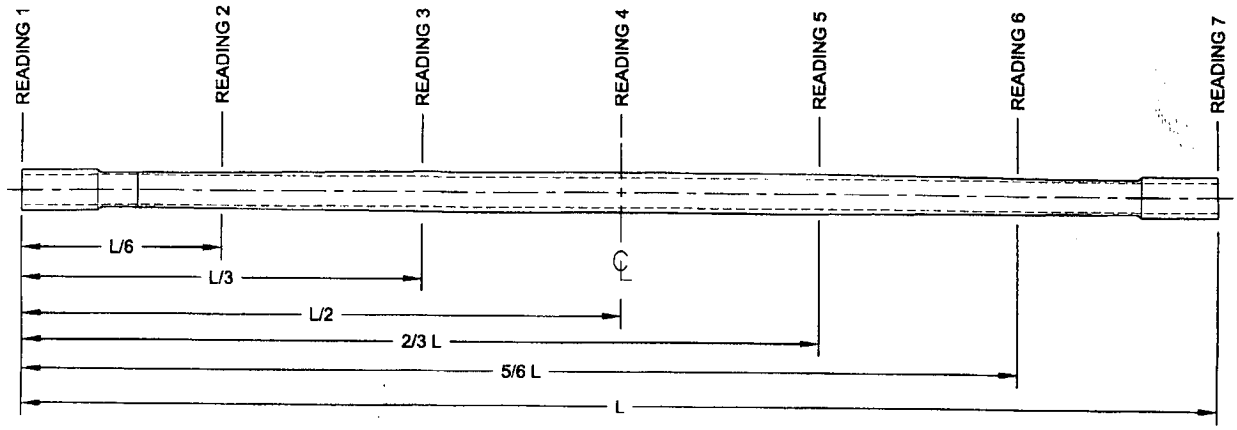
Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	86052
Description: Crosstube Assembly (205/212/412 Low Fwd)	**Part Number:**	D212-664-147
Inspection Dwg: D212-664-147 **Rev:** B		Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	.116	.145	.145	.100	.045	Acceptable 0.048"
READING 2 L= 14"	.127	.148	.134	.105	.043	
READING 3 L= 30"	.229	.246	.221	.192	.054	
READING 4 L= 63"	.315	.326	.329	.312	.017	
READING 5 L= 30"	.216	.223	.225	.215	.010	
READING 6 L= 14"	.127	.134	.128	.115	.019	
READING 7 L= 0"	.119	.136	.122	.110	.026	

A

B

GP 12/6/22
Dwg max = 0.210

Calibration Result

Actual Block Thickness: _____

Sitescan 250 Measured Thickness: _____

Measured by:	MML
Date:	12/06/22

Audited by:	GP
Date:	12-7-22

Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	08.11.07	New Issue (P/O D212-664-107)	KJ/EC	
B	10.02.02	Dimension 126.528 was 126.53	KJ	
C	12.06.04	Wall thickness form added	KJ	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

Item	Qty -147	Qty -147B	Part Number	Description
1	X		D212-664-147	CROSSTUBE ASSEMBLY (205/212/412 LOW FWD)
2		X	D212-664-147B	CROSSTUBE ASSEMBLY (214 LOW FWD)
3	1	1	D6019-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	2	2	D3659-1	CUFF
7	4	4	MS21920-25	CLAMP (OR MS21920-26)
8	44	44	CR3212-4-06	RIVET (OR M7885/3-4-06)
9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)
10	A/R	A/R	SIKAFLEX-241/-291	SEALANT (OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT)

GENERAL NOTES:

1) MATERIAL: MANUFACTURED FROM D6019-128
   FINISHED LENGTH = 126.528±0.020 (BEFORE BENDING/TRIMMING)
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
   PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
   PAINT OUTSIDE PER DART QSI 005 4.2
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
4) UNITS: INCHES UNLESS OTHERWISE NOTED.
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
7) WEIGHT: D212-664-147 = 24.2 lbs (PER IIN-D212-664)
   D212-664-147B = 24.2 lbs (PER IIN-D212-664)
8) PART IS SYMMETRIC ABOUT CENTERLINE.
9) WHEN MACHINING TAPER, RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D., EXCEPT UP TO 10% IS ALLOWED IN AREA NOTED.
11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
13) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.
16) INSTALL D3659-1 CUFF AFTER CHEMICAL CONVERSION COAT BUT BEFORE PAINT, WITH A LAYER OF SIKAFLEX-241/-291 OR PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT BETWEEN CUFF AND CROSSTUBE. SEAL EDGE OF CUFF TO ENSURE NO GAPS.
17) TOUCH-UP HOLES WITH CHEMICAL CONVERSION COAT.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 86052 MLJ
12/06/20

DEO ATTACHED

PER ECN #11-614
11.07.26
UNDER REVIEW
11.08.13

RELEASED
2009 -10- 29

REV.	DESCRIPTION	BY	DATE
B	REVISE GENERAL NOTES/PART LIST; UPDATE TO CURRENT STANDARDS: ADD -147B (ZN C4-2, D4-2)	RF	09.09.30
A	NEW ISSUE	CP	07.07.07

DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D212-664-147	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (205/212/412 LOW FWD)	NTS
DATE	09.09.30		

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

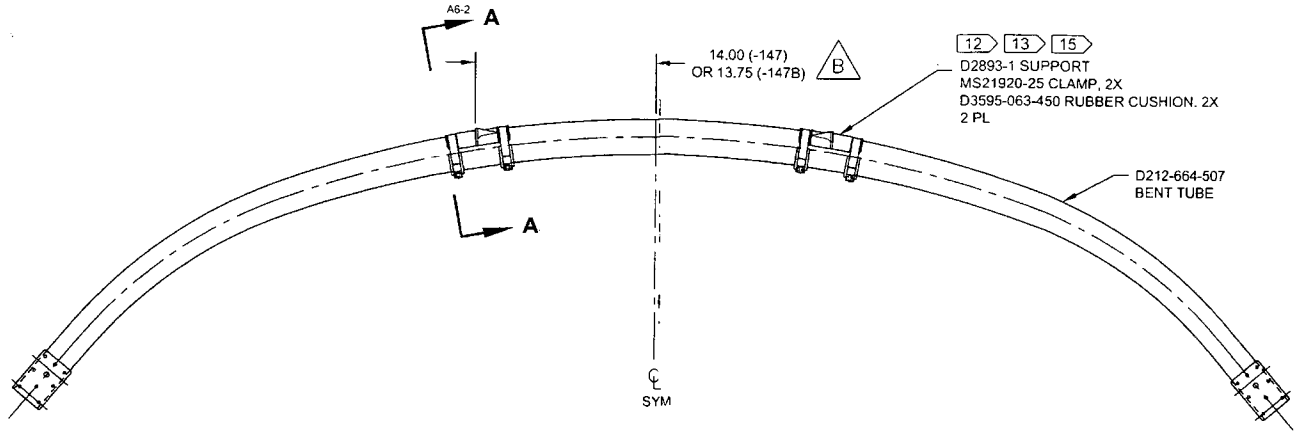
Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

86052

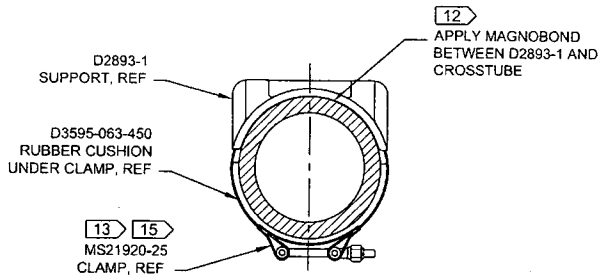


D212-664-147/-147B ASSEMBLY DETAIL B

DEO ATTACHED

ECN#11-614
06.07.20
UNDER REVIEW
09.11.06.13

RELEASED
2009 -10- 29



SECTION A-A D5-2
SCALE 4X

DESIGN		**DART AEROSPACE LTD**	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D212-664-147	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (205/212/412 LOW FWD)	NTS
DATE	09.09.30		

Dart Aerospace Ltd

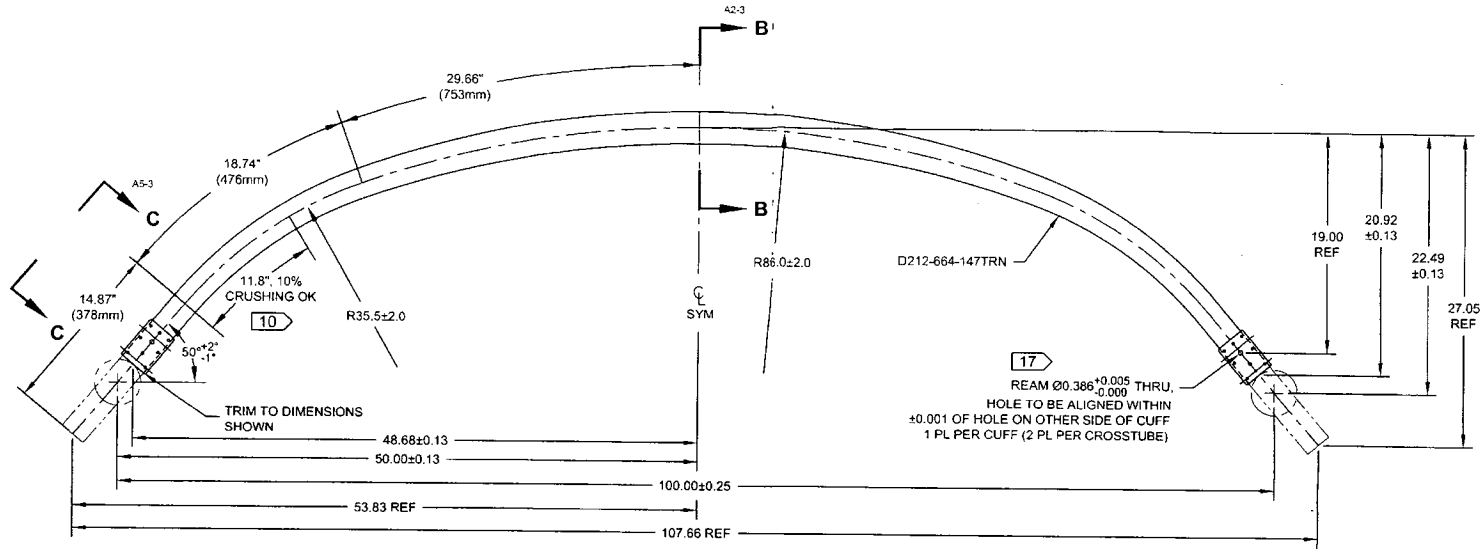
W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

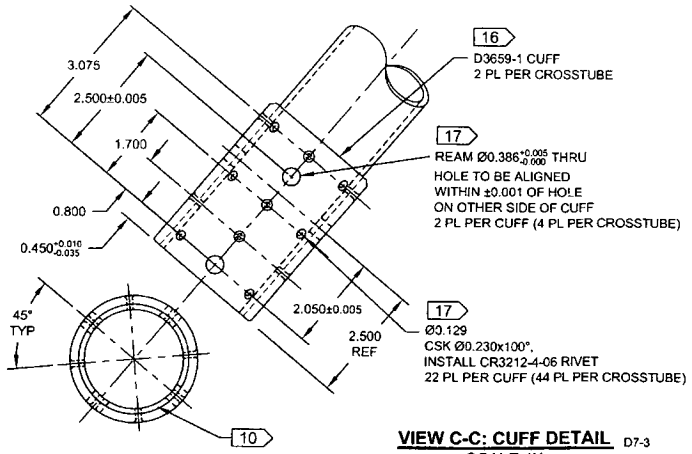
NOTE: Date & initial all entries



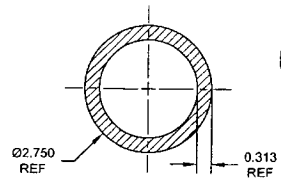
86052

DEO ATTACHED

D212-664-507
BENDING AND DRILLING DETAIL 10 B



VIEW C-C: CUFF DETAIL D7-3
SCALE 4X



SECTION B-B D5-3
SCALE 4X

ECN#11-614
5.11.09.20
UNDER REVIEW
9/04/13

RELEASED
2009 -10- 29

DESIGN		DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D212-664-147	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (205/212/412 LOW FWD)	NTS
DATE	09.09.30		

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Approval** QC Inspector

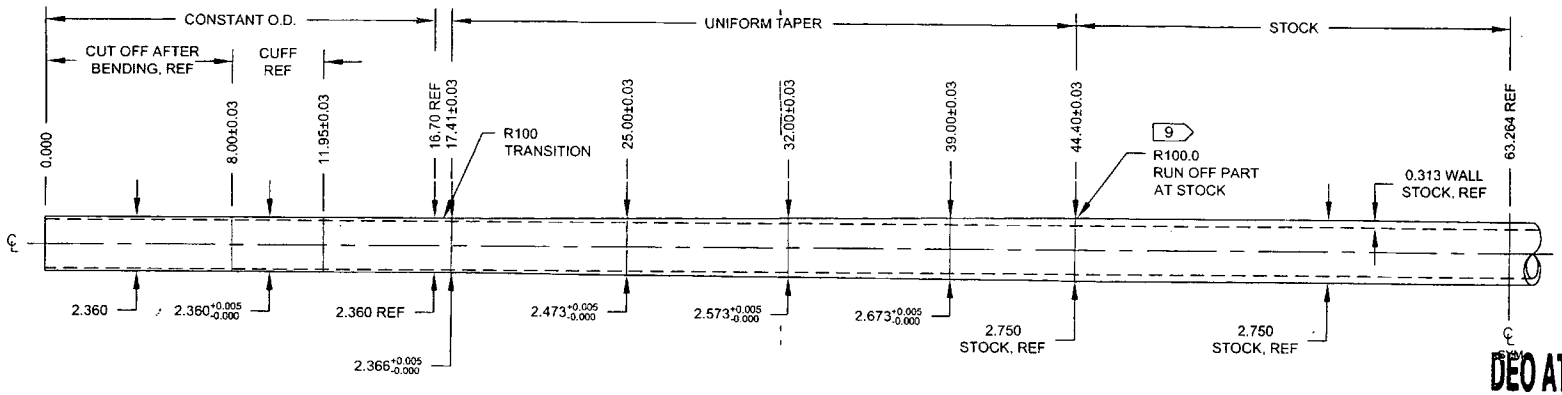
Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

86052



D212-664-147TRN
TURNING DETAIL

DEO ATTACHED

ECO #1-614
11.07.26

UNDER REVIEW
11/08/13

RELEASED
2009 -10- 29

DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D212-664-147	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		CROSSTUBE (205/212/412 LOW FWD)	NTS
DATE 09.09.30		COPYRIGHT © 2007 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	**STEP**	**PROCEDURE CHANGE**	**By**	**Date**	**Qty**	**Approval** Chief Eng / Prod Mgr	**Appro** QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	**STEP**	**Description of NC** Section A	**Corrective Action** Section B			**Verification** Section C	**Approval** Chief Eng	**Approval** QC Inspector
			Initial Chief Eng	**Action Description** Chief Eng	**Sign & Date**			

NOTE: Date & initial all entries

DRAWING NO.	TITLE	REV. B	DART AEROSPACE LTD	D.E.O. NO.	SHEET NO.	SCALE
D212-664-147	CROSSTUBE ASS'Y (205 LOW FWD)		ENGINEERING ORDER	D212-664-147-B-1	SHEET 1 OF 1	NTS

DRAWN 9P	CHECKED ASS	MFG. APPR. KB	APPROVED MP	DE APPR. [illegible]	
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/07/21	DATE 11.07.21	

96052

PURPOSE:
REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -147	Qty -147B	Part Number	Description
9	A/R	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

12) TO INSTALL D2893-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED
2011-07-28

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod. Mgr	Appr QC Inspector

Part No: _____ **PAR #:** _____ **Fault Category:** _____ **NCR:** Yes No **DQA:** _____ **Date:** _____

Resolution: _____ **Disposition:** _____ **QA: N/C Closed:** _____ **Date:** _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries